

Industrial Engineering is concerned with the analysis, design, improvement, installation and management of integrated systems of human resources, finances, materials, equipment, energy and information and the synergy between them

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From the Editor (articles and comments are definitely encouraged)

From the Federal President

Dear Members,

It is a great honour that I have recently been elected Federal President of IIEA after 30 years of membership, at the recent AGM in September.

I have to thank Bob Watson(FIEE) for encouraging me to take up this position.

There are many challengers ahead, but I believe with the application of excellent Industrial Engineering principles including effective informing, the federal council and I will achieve much.

The objectives for the 2019-20 year include:-

- Sorting out the Membership List
- Reviewing the Agreement with Engineers Australia(EA)
- Working with EA & Societies
- Streamlining the finances
- Having an updated Website
- Regular Newsletters(4x)
- Promoting IE within Industry, Academia, Government, Schools, Public
- Having regular face to face events with members
- Centralised institute database

As I conclude, some of the above objectives have been achieved or are underway.

If you would like to contact me, please do so.

All the best over the Festive Season

Regards

David Karr(CP Eng, FIEEA)

Federal President – IIEA

14th November, 2019

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Federal AGM Report

The following were elected: David Karr(Pres), Bob Watson(Sen VP), Sam Ghaith(IPP, Int Dir, Temp Tres)), Scott Fairburn(Sec), Councillors Craig Sutton, John Shervington, Damian Kennedy, Chin Hak Wong(O/S), Rohan Fernando(O/S), Mo Barghash(O/S)

Bob Watson was presented with the 2nd Chris Heyde Award.



Division Reports

NSW Division-John Shervington(MIIEA)

Over the last 2 years the NSW Division has Undertaken a membership review of 28 NSW members. The good news is that 7 are actively participating in IIEA activities.

A successful small group meeting (following last year's similar meeting) was held to discuss professional issues related to particular industries on 27/06/19 at the Coffee Club of Rhodes SC.

Sadly, news of Brian Sullivan, a long standing member from the Vic Division, passed away at the age of 93 on 15/04/19. Brian was actively involved with myself and Chris Heyde in the production, distribution, sale, and training of occupational and physical therapists in the use of Workability with MODAPTS Mk III in the early 1990s.

John Shervington Federal Councillor Director
NSW Division

Report from WA Division

Two members of the WA Division, Bob Watson and David Karr represented the WA Division at the IIEA AGM held in Melbourne in September. David Karr(FIIE) was elected Federal President (with Bob Watsons strong encouragement). Bob was elected Senior Vice President.

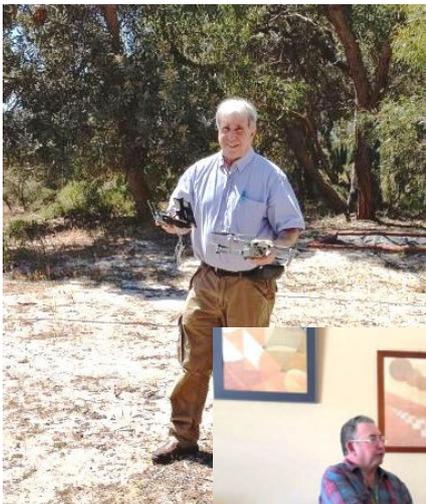
A very successful social and training session was undertaken on October 28th. 11 people attended and the "boerewors and mieliepap" went down well.

David Karr then delivered an enlightening presentation on Consensus Decision Making utilising Game Theory. Also a new member Yau Shu Wong was presented with his membership certificate.

The WA Division is also working with Curtin University in assisting them with the development of the proposed BE in Industrial and Systems Engineering.

Four events are planned for the next year including collaborating with EA and the Royal Aeronautical Society(RAeS)

Bob Watson (FIIE) IIEA WA Division President



INDUSTRIAL ENGINEERING AND SUSTAINABILITY

David Karr(CP Eng FIIE)

Industrial Engineering(IE) is about considering activities in a holistic manner. Whether it is about the people, finances, equipment utilisation, resource application, or information optimisation etc. There is however a need for IE's to be very very cognisant of the reality that to misuse Newton's Third Law, for every activity there is a resulting consumption of energy and utilisation of materials.

These materials are consumed and also generate waste. The waste could be immediate due to the inefficiencies of the process, or later on due to end of life attainment or replacement.

We only need to look at the waste that is generated in our own homes. Whether it be food scraps, discarded packaging or unneeded items.

Examples of this are mobile phones. How many times do we need to upgrade upscale or for pure vanity sake "get a better model".

In Germany, before a customer has taken their new beaut 190cm(75inch) TV out of the store, ALL the packaging has to be removed and left in store. This due to requirement that it is the sellers responsibility to ensure that the superfluous wrapping is returned to the supplier. (German Packaging Law (VerpackG))

Another German example is found in the car industry. Car manufacturers have to account for the resource life cycle to allow for recycling and minimum negative impact on the environment.

So now how can IE's reduce our environmental footprint. Well look at your recycle bin, It's a mixture of "stuff". That is metal, plastic, paper glass etc. The value of it at best is very very limited in that form. So how about we value add to the recycle waste by getting the generator of the waste to SORT the waste(this is extremely hitech I know).

So let introduce a bin for each of the 4 waste streams. Then we optimise the recyle stream by have a metal pickup week, then next week a glass pickup etc etc.

Then we would have a PURE(hopefully close to 100%) recycle stream that can be used by the recyclers directly.

So IIE'rs lets **MAKE IT HAPPEN OPTIMALLY.**

David Karr(CP Eng, FIIE)

IIE Memoirs

Bob Watson FIIE

At the invitation of the Federal President I offer members a few of my cherished memoirs of a long serving but not suffering Federal Delegate.

As this communiqué is being offered to our folk on the other side of Australia it is wise to caution you that since my graduation to the rank of IIE Federal Delegate we have in the West learned a great deal from the wise Industrial Engineers from the East. On reflection, now that I am sixty four and not the new WA delegate on the Federal scene as I was at around twenty five years of age, I now realise that my fellow delegates from the other side of the Rabbit Proof Fence were really trying to help us back wood members in good 'ole WA'.

Maybe I should have told the Federal Delegates when I attended those early meetings that we had running water, electricity, radio, trains, boats and even aeroplanes. I think you may have my drift by now that there were some heavy egos, plenty of bulldust and much politicking to benefit the status of high strutting delegates who from time to time arrived with their carpet bag bearing travel tickets from Victoria and NSW. Now if you hail from these states please do not take this the wrong way, as from time to time quality delegates did appear and after all this is a sentimental journey for me to share. Most important, even though the 'great divide' existed, it is correct to say that all the Federal Delegates were proud of our Institute and each of us had the best interests of our profession at heart.

With the above preface I have prepared your mind with the canvas that I can now paint three of these characters who to this day live in my memory.

Peter Forrest, Ernest Punchard and Neville Hansford have left us now and work alongside God the Chief Industrial Engineer in Heaven.

Neville Hansford represented Queensland, he was our Federal President who had the greatest imagination for Federal Council meeting venues, agenda, entertainment, fellowship, catering and grand entrances. Here was a smart man who could drink every delegate into the ground, his strategy was simple, keep every body happy and drunk, if not drunk then the back up plan was to have delegates that sick with hangovers that Neville's agenda dominated. Here was a Federal President who was that thoughtfull he would arrive at meeting venue a day before the delegates to stock up every fridge in our motel rooms with a plentiful supply of beverage. In fact any fridge he could find would be choc a block. I must hurriedly say that each delegate upfront paid for the beverages, Neville provisioned the fridges free of charge. The next thoughtfull action was his choice of meeting room, there was of course the mandatory bar always and for the three years he was President always the same room which was carefully selected to provide sizzling distractions

to delegates so that Neville could eliminate any intelligent opposition to his agenda. What brilliance to hold the Federal Council meetings in a 3rd story room overlooking a dance studio with not only a view to the dance floor but also the change rooms. Neville ensured that delegates did not consume the jungle juice during council meetings.

If by chance you succumbed to over consumption, Neville would care for you in sick bay. I experienced his nursing and doctoring when I myself became very ill with a gastro bug. Not only did he summon a doctor to my room he also instructed each delegate to visit and comfort me. Thinking back now I realise that the visits were arranged to enable delegates to drink my fridge dry. That plane trip back to the West was memorable as I had not quite got rid of the gastro bug.

In the course of time I was elected Neville's Federal Secretary, we became very good friends, he took me fishing in Queensland at the Stradbroke Islands, Even though it was the truth, I regret my comment when he pulled into the boat a flathead about eighteen inches long, I informed him that in the West we use that size fish for live bait.

The best memory of all was the grand entrances to those many important Federal Council Meetings where the NSW and Vic councillors would present in flamboyant suits and serious ties. In classic Queensland style Nev would mount the Presidents chair wearing simply a lairy beach shirt, grey shorts and sandals that Jesus discarded.

The Victorians: Peter and Ernest

My simple life in Western Australia and my public school up bringing did not prepare me for these two. They were sensationally cool, they were worriers, they excelled in verbal warfare, they planned and plotted brilliantly, they created smoke screens, they were dramatic, they were Victorians who were on a mission from God, just like the Blues Brothers.

Before continueing you need some background , prior to representing the great WA Division at Federal Council I spent one year working at Caterpillar Tractors in Tullamarine, I was a member of the Vic Division. Earnie and myself were work buddies at Caterpillar. So in a way I was an annoyance to them with my ability to remind them when they were in 'full flight' at Council meetings that 'after all were just Victorians'.

It came to pass that Peter was elected Federal President, Earnie Federal Secretary and on the proposing and seconding by Peter and Ernest I Was elected Senior Vice President. This was a marvellous moment for me sitting in the winners circle at the Menzies hotel at the invitation of the Federal President and Federal Secretary to indulge in a congratulatory whiskey and as advised by these two learned Victorians to be informed as to my Senior Vice Presidents duties and

key role. There I was, seated in this plush red leather lounge chair whisky in the glass, Peter congratulates me on my election, then Earnie says Bob as Federal Senior VP this will be your role. At this stage Earnie and Peter lay their lips on their glass of whiskey and consume the contents, they then beckon the drinks waiter and order another round. I seize the moment and say, "Well then what will be my Senior VP role?" There is silence and then the new round of whisky drinks are positioned on the occasional table in between our lounge chairs. Peter and Earnie lift their glasses and take their time to consume the contents. With appropriate politeness I further inquire "what will be my projects and official duties?"

With the question presented yet again Peter and Earnie ordered another round of whiskey and we await the arrival of the 3rd round with no response from either the Federal President or the Federal Secretary as to what my Senior VP roles was to be.

OK, I am the boy from the West, I finally realise what is happening, these two scallywags do not want me to do a damned thing, they planned the whole facade they wanted all the glory and power.

Time went by and suddenly the roles are reversed. I am elected Federal President, Ernest is still Federal Secretary and Bill Murrell, a WA delegate, is Senior VP.

Bill, a kindly sensitive man, could not see through many of the manoeuvres and plots that Ernest and Peter would hatch, Ernest was highly dramatic at times when he could not win his way, one brilliant stunt played once too often at a meeting in NSW was for him to stamp his foot and announce that he was going to leave the meeting and fly

back to Victoria. Bill was aghast and did his best to placate, knowing this was a classic Ernest tactic I handed him his airline ticket and wished him a safe journey.

There are so many delightful incidents I could record, one more I must share. Earnie loved travel he adored planes, he liked extravagance. Earnie had acquired Ansett Golden Wings lounge passes for us both for a flight from Melbourne to Sydney. I was keen to get through some Federal paperwork with Ernest on the plane. Somehow I lost sight of Ernest as we boarded and his seat beside me was vacant when we took off. I was quite concerned that he was still enjoying the free drinks at the Golden Wings bar. The plane levelled out, the seat belt sign was switched off and suddenly Ernest appeared walking down from the first class compartment.

It took me sometime to 'level out' myself from the first class and economy seating incident, however when Ernest travelled on his last plane on IIE business he travelled in a brown paper bag in the economy section. Ernest organised the one and only off shore IIE conference. At the planning stage Ernest and I did not agree with the viability of holding the meeting in Singapore at the level of attendance estimated. I therefore, as Federal President, declined to attend. Ernest encountered problems in Singapore with the Manager of the venue hotel. There was a huge argument and Ernest suffered a fatal heart attack. He was cremated in Singapore and his ashes were carried back to Aus in a brown paper bag. Ernest lived and breathed the IIE, he worked his heart and soul out for our membership in good faith. Dearly I miss Ernest, Peter and Neville.

Bob Watson FIIE

"Tell me and I will forget, show me and I may remember, involve me and I'll understand"

Anonymous

Industrial Engineer's Dream Salary



Reaching the end of a job interview, the Human Resources Manager asked the young industrial engineer fresh out of university, "And what starting salary were you looking for?"

The industrial engineer said, "In the neighbourhood of \$100,000 a year, depending on the benefit's package."

The HR Manager said, "Well, what would you say to a package of \$200,000 a year, 5 weeks vacation, 14 paid holidays, full medical and dental, company matching retirement fund to 50% of salary, and a company car leased every 2 years - say, a red Mercedes?"

The industrial engineer sat up straight and said, "Wow!!! Are you joking?"

And the HR Manager said, "Of course, ...but you started it."

Industrial Engineering in the Brave New World

(Excerpted from IIEA New Engineer Journal-May 2009-Dr Damian Kennedy-FIIE)

We live in extraordinary times. Never in the history of mankind has the world faced more challenges, (and possibly more opportunities), than what appears before us in the closing stages of the first decade of the 21st Century. "May (you) live in interesting times" is a Chinese proverb that, of late, appears to have taken on 'more potency' than usual.

The theme for this edition of the ***New Engineer*** was inspired by the same idea of 'Newism'. Not newism for its own sake but of necessity. The world has changed and, along with it, so has the need for IE to change too. Not to say that the IE of old with its emphasis on 'tools' (means) to achieve a single objective of higher productivity (end), is obsolete, but to suggest that new challenges require new approaches. The dawn of a *New Industrial Engineering* may be upon us in which the emphasis becomes excellence in achieving superior organisational performances (multiple ends) and how these goals inform the means by which such results are to be achieved. That is, the *New Industrial Engineering* may be more objective-focused than the means focused Traditional IE.

The articles in this edition have been contributed by some of our IIE (Australia) Directors – both 'old' and new, and Dr. John Blakemore. They explore possible future directions for IE within Australia and possibly also throughout the rest of the world in the decades to come.

New IIE Director Chin Wong introduces the reader to the TRIZ approach of finding new technological solutions to both existing and new problems. He emphasises the particular need for modern organisations to continue to grow their Knowledge Capital.

John Blakemore's article on 'Management Solutions to the Current Financial Crisis' continues his theme of the need for Australian companies (particularly those in manufacturing) to emulate Japanese icons Honda, Toyota, Panasonic, Canon, etc. in their continuing growth of intellectual-capability, and their proven approach to 'creative innovation using the principles of lean manufacturing'. John argues this is not

a 'culture' thing, but a very logical, long-term approach to

realising superior organisational performances. Lex Clark looks at the role of the industrial engineer as it has evolved both in Australia and overseas to date in his article 'The Industrial Engineer – Technical Specialist and Team Member or "Why doesn't everybody love me?'

He sees a metamorphosis in the role of the IE from that of management-sponsored, technical-specialist to (multidiscipline) team leader / facilitator of change. Through their training and multidisciplinary practical-experiences, Lex argues that this as a logical and natural step in the continuing evolution of industrial engineering in general, and in the role of the IE in particular.

The final article in this edition of the ***New Engineer*** is a reproduction of a research paper written and presented by this author, in April 2009 at Dunedin, NZ. The occasion was the 2009 Performance Measurement Association conference chaired by Prof. Andy Neely of Cranfield and Cambridge Universities UK.

The paper, although written for a performance measurement audience, may help in formulating the above suggested *new* objective-focused approach to industrial engineering. It develops a theoretical formulation linking superior organisational performance in a particular performance-parameter – ($p = productivity$, in the case of the paper), with the means of setting new utility of input resource goals and the subsequent attempted traditional IE approach to improvement in the productivity of actual process(es). That is, through the development of the utility–productivity performance equation, a link has now been established between the traditional approaches to IE and, what may be called, the objective(s)-based *New Industrial Engineering*.

Dr Damian Kennedy(FIIE)

QUOTES

- It is not what happens to us that disturbs us but what we think about what happens to us.
- Make the best use of what is in your power, and take the rest as it happens.
- He is a wise man who does not grieve for the things which he has not, but rejoices for those which he has.
- We have two ears and one mouth so that we can listen twice as much as we speak.

Epictetus: Greek Stoic philosopher